DECISION NOTICE
And
FINDING OF NO SIGNIFICANT IMPACT

Upper Little Deschutes Restoration EA
October 2019

USDA Forest Service
Crescent Ranger District – Deschutes National Forest
Klamath County, Oregon

Ecosystem Services and Values Mapping
Successfully managing for the full suite of benefits on a given landscape is a challenge the Forest Service has faced throughout its tenure as an agency. Managing for one benefit or resource often involves tradeoffs that may reduce the landscape's ability to provide other benefits. The Ecosystem Services framework[1], used here, highlights the diversity of benefits currently being provided by the landscape; recreation and access to those recreation sites, unique habitat for aquatic species (such as the Oregon spotted frog), water quality, hunting, and fishing opportunities etc. [EA at 8].

The concept of ecosystem services directly aligns with the direction to the Forest Service in the Multiple Use Sustained Yield Act of 1960 to provide a diversity of goods and services to the American public off its lands. Ecosystem services are most simply defined by the 2005 Millennium Ecosystem Assessment as "the benefits people obtain from ecosystems." The District engaged in a values collection process (value mapping) both internally and externally. Priority ecosystem services identified by the public and the agency included fishing, camping, water quality and hydrology, high quality plant and animal habitat, and high quality dispersed recreation opportunities. Public participants also highlighted the need to better integrate Forest Service planning, "the public understands land planning to be bigger than individual plots or projects" one participant said. Another noted "qualitative values are real but take more effort to define." From this, the Forest Service determined there is a need to both address natural and human threats to the current range of benefits being provided (including unmanaged recreation impacts, unauthorized dump sites) while also restoring and enhancing the ecosystem's capacity to provide a similar amount and diverse set of benefits in the future.

Decision and Rationale
I have decided to select Alternative B, the Proposed Action in its entirety, for the Upper Little Deschutes Restoration (ULDR) project as it focuses on the Little Deschutes River and the unique habitat it provides for wildlife and fish. The area is important to many generations of the local community for a variety of reasons (hunting, fishing, solitude, recreation, etc.). Alternative B focuses on the restoration goals of maintaining or restoring existing values and ecosystem services, the recreational experience, and ensuring there is a sustainable roads system that provides access while increasing wildlife security and reducing sedimentation to the river (EA at 9).

[1] Provisioning services include: water quality, timber, and non-timber forest products such as matsutake mushrooms. Regulating services include: improvements to water quality, air quality, and soil quality. Supporting services include: biodiversity, notably high quality animal and plant habitat; and Cultural Services include: high quality dispersed and solitary recreation opportunities, traditional or spiritual connections with the land, and scenic views.

It is the best balance of priority ecosystem services that were identified by the publics in their ecosystem values mapping and from the internal Forest Service values mapping. Values examined included provisioning services, regulating services, supporting services, and cultural services. The desired outcome of the process was to impart a better understanding of the linkages between public values, nature's benefits, the condition of the ecosystem that generates those benefits, and the relationship between management and positive or negative impacts on the ecosystem. The values derived during these sessions were then combined and condensed into what could be implemented and effectively managed by the Forest Service and its partners. I believe Alternative B, would best meet the Purposes and Need. This is an excellent opportunity to utilize the ecosystem services concept while restoring the riparian areas adjacent to the Little Deschutes River to a more natural condition. These values that were identified are: quality aquatic and terrestrial habitat to provide for fish, big game, beaver, Oregon spotted frogs, a diversity of plant species, and quality recreational experience of hunting, fishing, and camping, with a sustainable road system that provides access (including OHVs on ML2 roads) while increasing wildlife security and reducing sedimentation to the river (EA at 9).

I looked at the hydrology and how to improve the hydrological function along the Little Deschutes River. By closing a water diversion ditch, removing two unauthorized bridges, rewatering and/or reconnecting oxbows to the main stem, removing encroaching lodgepole pine within the meadow, and installation of instream wood structures, this would result in long-term benefit of increased shallow ground water retention. It will also create/expand unique habitats for fish and the Oregon spotted frog, which is one of the inter-related Purposes and Needs for this project (EA at 10, 11). The oxbows will provide the shallow water areas for egg and tadpole survival, perennially deep, moderately vegetated pools created by the log structures will help adult and juvenile survival in the dry season, and perennial water for protecting all age classes during cold weather (Watson et al. 2003; EA at 50).

I realize that there will be some short-term shade loss from the lodgepole pine removal adjacent to the river as well as sedimentation from placing the log structures instream. The long-term-term benefits including increased soil moisture, increased hyporheic exchange[2], support riparian vegetation in a broader area, and improved shading as a result of riparian planting of native vegetation and the degree of shading provided by riparian plants such as willow, aspen, and sedge (EA at 51, 91, 118). The elevated shallow groundwater and increased hyporheic exchange also results in greater diversity in surface water temperatures. This temperature variation can be beneficial to fish. In the warm summer months the cold water pockets would hold more oxygen thus fish expend less energy to maintain body temperature and are less prone to disease. In the colder months the warmer pockets provide a place of refuge (EA at 93).

With the increase in riparian vegetation, there would be an increase in allochthonous[3] (plant litter- ie. leaves, branches etc.) inputs into the stream which would decompose and provide sources of nutrients/food to fish.

Removal of encroaching lodgepole pine in stringer meadows and aspen would increase hunting opportunities and diversity of prey species for all the birds of prey except osprey (EA at 69). There would also be increased foraging opportunities and fawning and calving areas for big game within restored wet and dry meadows along the river (EA at 56).

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[2] **Hyporheic exchange** is the mixing of surface and shallow subsurface water through porous sediment surrounding a river and is driven by spatial and temporal variations in channel characteristics (streambed pressure, bed mobility, alluvial volume and hydraulic conductivity). Hyporheic exchange in mountain rivers I - USDA Forest Service *https://www.fs.fed.us/rm/pubs_other/rmrs_2009_tonina_d001.pdf*

[3] **Allochthonous-** Riparian organic matter such as leaves, branches, bark, from trees that falls into the water, decomposes and provides organic matter for food to fish and other aquatic species. 2005. Naiman et al. Riparia: Ecology, Conservation, and Management of Streamside Communities.

I took into account the high value that dispersed camping has for many locals/visitors but realize unmanaged dispersed campsites, left unchecked, will continue to expand and remove vegetation adjacent to the river contributing to sedimentation and a reduction in plant and wildlife habitat (EA at 7, 86, 103-108). There are currently 20 dispersed sites and two known dump sites that have been identified. I charged my Interdisciplinary Team (IDT) to look at each site and see how best to continue use but limit expansion and vegetation damage. I concur with the recommendations in Table 1 (EA at 16) to adjust site boundaries, utilization of fencing, bollards, brush, bouldering, or logs to define the sites and limit vehicle access or in some cases, close the sites/dumps. I feel it will allow continued public use but protect the riparian areas and limit sedimentation into the Little Deschutes River.

Implementing the sustainable road system actions rearranges opened and closed roads, creating larger blocks of habitat for wildlife that are not influenced by roads. Hiding cover changes from being in mostly 10-50-acre sized habitat blocks to consolidated within >100 acre blocks improving habitat effectiveness (EA at 75). Approximately 1,031 acres or 35 percent of the hiding cover within the project area is within habitat blocks, with 65 percent of the habitat within blocks occurring in the largest blocks (EA at 75).

I realize that by defining the sustainable roads system and designating firewood cutting areas it would increase the allowable firewood cutting acreage by 170 acres. Firewood gathering would reduce nesting/denning and foraging components for all deadwood dependent species, reducing the quality and quantity of habitat within the 200-foot buffer along each side of open roads as defined on the MVUM map (EA at 71). I am incorporating by reference the dead and down wood requirements (such as: permits are required, only dead and down wood within 200 feet of an open MVUM road etc.) from the 2012 Crescent Roadside Firewood Strategy[4] for the firewood gathering.

Identifying a sustainable roads system to accommodate public access throughout the project area while increasing wildlife habitat effectiveness and reducing the resource damage is very important to me (EA at 9, 10, 17). I considered access (both road and on foot) to dispersed sites and fishing holes, the opportunity to just drive open ML 2 roads, and access to private lands for either emergency egress routes or their primary driveways. Based on field and ground truthing I am authorizing approximately 3.0 miles of unauthorized roads to become part of the National Forest Road System while decommissioning[5] approximately 9.4 miles of National Forest Roads and 17.2 miles of unauthorized roads (EA at 27, 88, 94).

I considered the public input on the possible development of new motorized and non-motorized trails. With the majority against any new development I feel that with the sustainable roads system in place there will be ample opportunity on open Maintenance Level 2 roads that appear on the Motor Vehicle Use Map (MVUM) for those who do wish to utilize motorized transportation and/or OHVs (EA at 7, 105). Although the Three Trails OHV system is not part of this project area it is available nearby for those that wish for a more challenging ride (EA at 7, 19)

I carefully considered a variety of public comments. I feel that Alternative B was crafted to address rehabilitation and incorporate the public values and ideas. I have included responses to public concerns in the table below.

Comment	Response
Don't flood the private bridge which is access to our subdivision	The placement of the log structures in the stream was adjusted back from the edges of private property to minimize the shallow ground water storage in those areas (EA at 9, 33). I realize that the actual placement of the log

[4] 2012 Crescent Roadside Firewood Strategy Letter dated September 13, 2012

[5] Roads will be physically closed (boulders, earthen berms, ripping, slash etc.)

Comment	Response
	structures or beaver dam analogs may be slightly different than what is currently mapped to meet the intent of the riparian restoration (EA at 11).
Consider partial reconnection of the oxbows may be sufficient	Only selected oxbows would be reconnected, by either adding large wood structures (single logs, multiple logs, or beaver dam analog structures) to reconnect the river with side channels (relic oxbows), creating additional habitat for Oregon spotted frogs, improving aquatic habitat for fish, removing some of the encroaching lodgepole to help move the meadow back to an early seral stage (EA at 10, 11, 34). Actual selected oxbows may not be opened for best fit on-the-ground to meet project intent.
Removal of small lodgepole but retain all large old legacy trees greater than 21 inches dbh	A project design feature has been added "No trees over 21 inches dbh would be cut, or pulled over, from the lodgepole removal to provide instream structures" (EA at 34).
Take care when utilizing heavy equipment in floodplains	Project Design Features address heavy equipment use in riparian and on sensitive soils (EA at 32-33).
Legitimizing six miles of unauthorized roads	In ULDR 2.96 miles of unauthorized roads are proposed to become part of the National Forest Road System based on the sustainable roads analysis. Part of these are for the through route across the northern portion of the project area and some are providing ingress and egress from private land across National Forest Lands. There will be a total of approximately 17.2 miles of unauthorized road miles decommissioned (EA at 27).
Use of step pools	Another IDT adaptation from public input was the use of step pools or multiple ponds within the existing ditch. This idea was examined and determined that this habitat could be created by obliterating the ditch down the existing channel and thus backing up the water and creating pond-like features which is effective for producing Oregon spotted habitat (EA at 37).
Unauthorized bridges	I considered leaving the unauthorized bridge at DS #14 in place, however due to the deterioration of the bridge structure, lack of footings on either side of the river to properly support the bridge, the erosion caused to the streambanks, it is not authorized or built to Forest Service standards, and no Forest Service system roads access the structure, I am authorizing its removal. I am also authorizing the removal of an unauthorized foot bridge near DS #15. I also considered the public request to replace the vehicle bridge at bridgeout (north end of FS road 9770) that has been out since the mid-1970's that is only utilized by a small subset of the public to access their private structures. The cost for a single lane bridge is over $310K. In addition, bridge maintenance and inspections would add additional costs. Thus, the cost to build a new bridge in this location versus the benefits gained is not feasible at this time (EA at 37, 50, 109).
Garbage and extended lengths of stay	Increase Forest Service patrols into this area including education and enforcement of Travel Management rules. This may be a combination of Law Enforcement (LEO), Field Rangers, Forest Protection Officers (FPO) or District personnel (EA at 17). In addition, two known dump sites would be cleaned up and rehabilitated. Any additional sites where trash is discovered would be cleaned up and rehabilitated as well (EA at 16, 107).
Dispersed site at the end of UA013 not addressed	I looked at UA013, a road to be decommissioned, as there is a dispersed site at the end of it that was not in Table 1 originally, and concluded the site (DS #20) will remain as a dispersed site with some redefinition, but access to it will only be via foot traffic, not motorized (EA at 16).
Consider using jackstraw trees around aspen vice fencing	This idea was considered but due to snowloads in this area jackstraw trees breakdown in height before aspen reach heights above deer and elk reach.
Install log jams vs log structures as the water flow would float single logs under 21" dbh	Some of the logs used for log structures will contain the rootwads to help secure in place and prevent downstream migration (EA at 11).

Comment	Response
Transportation concerns included: a) Create a connector for Starlight Drive property owners for an escape route, b) 9770711 has too tight a turn for heavy equipment- leave the 9770710 open, c) does the Forest Service have an easement for the 6100100 as the private property owner would like to close it.	The Crescent Ranger District Transportation Planner met with the individuals and addressed their concerns. The connector for the Starlight Drive the 6125890 would not be closed to the south and it is connected to 6125892 providing the emergency access. b). the sustainable roads were adjusted to allow private property access to several homeowners on adjacent private land. Each adjacent landowner may be required to obtain a special use permit or road use permit. c). the Forest Service has an easement for the 6100100 as it crosses private lands and a copy was provided to property owner (EA at 26, 28, 36, 96, 106, 110).

U.S. Fish and Wildlife Consultation

I have read the U.S. Fish and Wildlife Service (USFWS) Biological Opinion, reviewed the reasonable and prudent measures, terms and conditions, and reporting requirements and have included them in my decision as Oregon spotted frog viability is important and a key focus of the Upper Little Deschutes Restoration project.

Reasonable And Prudent Measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize the impacts of incidental take on the Oregon spotted frog as described in this biological opinion. The Forest Service shall minimize the impacts of incidental take on the spotted frog by:

1. Conducting breeding surveys within wetlands in the year when construction activities will occur will facilitate the preparation of and improve the efficiency of a spotted frog relocation plan.
2. Relocating spotted frogs from wetlands to nearby undisturbed suitable habitat prior to implementation of construction activities will reduce the number of spotted frogs that could be killed by equipment.
3. Ensuring that the footprint for construction activities within wetland areas does not extend beyond the 10.5 acres of habitat from which spotted frogs will be captured and relocated.
4. Conducting post-breeding monitoring within the modeled 30 acres of newly inundated wetland habitat to determine duration of water and tadpole survival.

Terms and Conditions

In order to be exempt from the prohibitions of Section 9 of the Act, the Forest Service must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

RPM 1:

1. Breeding surveys shall be conducted within wetlands prior to commencement of construction activities that may impact wetlands in order to develop an approach to and improve the efficiency of the frog relocation plan.

RPM 2:

2. A spotted frog relocation plan will be developed and implemented by the Forest Service in coordination with the Service.

3. The relocation of spotted frogs from areas of impact will occur immediately prior to construction activity associated with ground and habitat disturbing work.

4. All spotted frogs that are handled during relocation efforts will be counted by life stage and a report including those counts shall be provided to the Service within one month of the activity.

5. All spotted frog life stages captured during relocation efforts shall be released into suitable habitat near the site of capture. Reasonable steps shall be taken to protect them from further injury or predation at the time of release, such as:

a. Quickly checking spotted frog individuals for visible signs of awareness and mobility prior to their release;

b. Scanning the area for potential predators and if present choose another location into which spotted frogs may be released; and

c. Gently placing spotted frog individuals into the water near protective vegetative cover where they can quickly escape and recover from any capture/handling related stress.

6. The following measures shall be taken if temporary containment of spotted frog life stages is necessary:

a. Spotted frogs (i.e., juveniles, sub-adults, and adults) shall be released within 1 hour of capture.

b. No more than twenty frogs shall be placed in a bucket at one time.

c. Buckets containing captured frogs shall be kept in the shade or covered with material to create shade during holding period.

RPM 3:

7. The area where ground disturbing activity within wetland habitat, ponds and ditches shall be delineated with stakes and other materials so that the area from which spotted frogs will be captured and relocated is clear to persons involved in these activities.

8. Where feasible, silt fabric or other materials shall be used to isolate the areas within the ditch where spotted frogs may be captured so that additional frogs do not move into the area of impact.

RPM 4:

9. Post-project construction monitoring shall be conducted within newly inundated wetland habitats to determine if spotted frog egg mass or tadpole stranding is occurring.

a. Monitoring should include measuring water levels at oviposition sites, marking the location of the oviposition sites and revisiting the location bi-weekly to observe drops in the water levels that may result in stranding.

b. Time-lapse photo points should be established within each breeding area and photos shall be taken throughout the rearing period to determine the timing of inundation within all areas where hydrological changes are anticipated and observed.

Reporting Requirements
If a dead, injured, or sick endangered or threatened species is located, initial notification must be made to the Service's Division of Law Enforcement in Oregon at (503) 682-6131. Instruction for proper handling and disposition of such specimens will be issued by the Division of Law Enforcement. Care must be taken in handling sick or injured Oregon spotted frogs to ensure effective treatment and care must be taken in handling dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured Oregon spotted frogs, or the preservation of biological materials from a dead Oregon spotted frogs, the Forest Service has the responsibility to ensure that information relative to the date, time, and location of the frog when found, and possible cause of injury or death of each Oregon spotted frogs be recorded and provided to the Service Law Enforcement.

Consistency
Management activities within the project area are consistent with and guided by direction as described in the Deschutes National Forest Land and Resource Management (LRMP 1990; EA at 40-117).

This project is not within the boundary for the *Record of Decision for Amendments to the Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl (1994 Northwest Forest Plan),* thus Survey and Manage requirements do not apply (EA at 42, 118). As the ULDR project is outside the range for the northern spotted owl there would be **"No Effect"** for the northern spotted owl or its critical habitat (EA at 41, 47).

There are no key elk or key watersheds within the project area (EA at 73, 91). For big game in Alternative B, there are 104 acres of hiding cover removed (3 percent) by the lodgepole pine removal along the river, leaving remaining hiding cover at 47 percent which is well above the LRMP 30 percent (LRMP 4-58, EA at 75).

Alternative B is consistent with management direction including the Clean Water Act and Executive Orders 11988, 11990, and 12088 (EA at 93, 118). The Little Deschutes River is 303(d) listed for exceedances of stream temperature and dissolved oxygen (DO). I realize that during implementation project activities would have the potential to affect fine sediment inputs and shade values.

The felling of trees, skidding, placement within the stream channel, and the removal of the two unauthorized bridges has the potential to displace fine soils and increase the probability of mobilization to surface waters. Fine sediment delivery to streams has been shown to adversely affect fish by abrasion of gill tissue, reduced ability to feed, decreased spawning success due to embedding the stream substrates, and reducing oxygenation of those substrates. Unless the inputs have a high level of clay, the visible sediment plume does not often travel downstream more than a kilometer (approximately 0.62 miles). Bull trout and redband trout have been absent from the project area for several decades. Any pulse increases in sediment production are not expected to adversely affect listed fish species or their habitat (EA at 91).

The felling of lodgepole pine trees within the riparian area of the Little Deschutes River will likely result in a short-term (less than five years) decrease in shading from the tree canopy. However, it is expected that as a result of project activities, there would be a long-term increase in stream shading and a decrease in summer maximum stream temperatures. This increased long-term shade is expected to occur as a result of improved soil moisture levels being able to support riparian vegetation in a broader area, and improved shading as a result of riparian planting and the degree of shading provided by riparian plants such as willow, aspen, and sedge. Additionally, as a result of an elevated alluvial aquifer level, it is expected that there would be improved hyporheic exchange, and therefore a greater degree of cooling due

to groundwater inputs during summer months. This will likely also result in a greater degree of thermal and spatial heterogeneity in aquatic habitats (EA at 92).

Alternative B is consistent with the *Deschutes and Ochoco National Forests Final Environmental Impact Statement for Invasive Plant Treatments* (2012) as well as the *Pacific Northwest Region Invasive Plant Program Environmental Impact Statement* (2005). There is one documented invasive plant site which has been treated since 2015 under the above listed Invasive EISs and is nearly eradicated (EA at 86). I am incorporating project design features to minimize the introduction of invasives (EA at 34).

I have reviewed INFISH and the Riparian Habitat Conservation Area (RHCA) standards to ensure they are consistent with this project. Although there is no timber harvest within the RHCAs of the Little Deschutes River, thinning of encroaching lodgepole is proposed to improve riparian vegetation (EA at 89).

I realize that the proposed log structures instream activity will require a permit. This permit will be obtained utilizing an individual permit for the Clean Water Act (CWA) 404 from the Division of State Lands and the Army Corp of Engineers (EA at 91).

This project will be consistent with the Clean Air Act. The Forest Service, in cooperation with the Department of Environmental Quality (DEQ), the Oregon Department of Forestry (ODF), and the Bureau of Land Management (BLM), has a Memorandum of Understanding (MOU) to establish a framework for implementing an air quality program in northeast Oregon. Any pile burning would be conducted in compliance with the State of Oregon Smoke Management System and would meet smoke management objectives for total emissions (EA at 118).

I have incorporated all the Project Design Features, Mitigation Measures, and Monitoring from the Environmental Assessment into the decision (EA at 32- 36; DN 17-21).

Location

The Upper Little Deschutes Restoration project (ULDR) consists of two separate areas (totaling 6,286 acres) along the Little Deschutes River that are separated by private land. It includes a northern portion (also known as Odell Pasture, 2,491 acres), and the southern area (3,795 acres). The northern area is surrounded by private land and Forest Service access is off County Road 61 (also known as Crescent Cutoff road). The southern portion is adjacent to Highway 58 and partially bordered on the east side by private land. Forest Service road 6125 (Gulick road) traverses through this portion and the western edge of the northern portion of the project area.

The legal description is: Township 24S, Range 8E, Sections 26, 32, 33, 34, 35 and Township 25S, R08E Sections 4, 5, 8, 17, 19, and 20, Willamette Meridian.

Public Involvement

On March 4, 2016, a letter was sent to organizations and individual citizens on the Crescent Ranger District mailing list inviting them to attend a values mapping exercise and to let the Forest Service know what they valued/found important in the proposed project area. On March 30th 2016 a pre-NEPA public meeting was held at the Crescent Community Club where participants worked with staff to draw connections between their values, landscape conditions, and management activities that would improve ecological function while delivering public benefits. With feedback elicited from the general public on the values they derived from the project area, the Forest Service staff created the Purpose and Need and Proposed Action. A scoping letter was sent out February 01, 2017 through March 10, 2017 and five comments were received. Two respondents thought it was well thought out and are looking forward to

the public meeting. One respondent wanted to see the 9770710 remain open not only as their emergency escape route but as winter access due to steep slopes on the 9770711 road. One respondent is considering fencing off his private property through which the 6100100 runs due to the amount of garbage being left behind by visitors. One respondent supported reconnecting oxbows however, it may not be necessary or desirable to reconnect all back into the system. Partial reconnection maybe a desirable compromise. This respondent also suggested: a). Supports removal of small encroaching lodgepole but retain all large-old legacy trees greater than 21 inches dbh. b). Take care when utilizing heavy equipment in floodplains to avoid unacceptable impacts to wet soils, unique vegetation communities and habitat for risk species like amphibians and fish. c). Supports rationalizing the dispersed camping and road system in the area. d). Are concerned about legitimizing six miles of unauthorized roads. e). Supports the decision not to expand motorized trails in this area and the removal of an unauthorized bridge and diversion structure (EA at 28).

An open house was held on May 23, 2017 to offer a chance for the Forest Service to meet and discuss with the interested public and receive their input or gain additional ideas on riparian enhancement, the sustainable transportation system, sustainable recreation, and provide additional details on instream structure placement, to discuss log structures not impacting the private bridge that provides access their private parcels in Schoonover, the unauthorized bridge removal, the unauthorized diversion ditch closure, and riparian meadow enhancement.

A public field trip took place on June 22, 2017 with several stops at areas of concern along the Little Deschutes River within the project area.

The project has appeared continuously since Spring 2017 in the *Schedule of Proposed Actions for the Deschutes National Forest*, which also appears on the Deschutes National Forest's website: http://www.fs.fed.us/sopa/forest-level.php?110601.

The 30-day public comment period for the preliminary EA was initiated on June 8, 2018 and resulted in written and oral comments from five individuals and one organization. This period started when the legal notice appeared in the newspaper of record, *The Bulletin,* Bend, Oregon. It was also posted simultaneously on the Deschutes National Forest/central Oregon website: https://data.ecosystem-management.org/nepaweb/nepa_project_exp.php?project=51024

Public comments ranged from considering leaving the unauthorized bridges so locals can cross the river in both summer and winter, mis-mapped dispersed sites and unmapped dispersed sites, work to incorporate beavers to back flood the pond, try utilizing small jackstraw trees around the aspen vice fencing, incorporating log jams vice structures as water flow would float trees less than 21 inches dbh, and constructing a second access to allow an escape route for the Starlight Drive area.

The comments were carefully reviewed and some of these comments led to edits, clarifications, and alternatives considered but eliminated to the final EA (EA at 36, DN at 3).

Consultation with American Indian Tribes

During the early stages of this project, government-to-government contact was made with affected tribes including The Klamath Tribes, the Confederated Tribes of the Warm Springs, and the Burns Paiute Tribe. The proposed action was presented in consultation letters dated February 01, 2017 to the Tribal Chairs and their Cultural Resource Program Managers of all three tribes. The Klamath Tribes responded with interest to ensure that cultural surveys are conducted before any ground disturbing activities take place and that Project Design Features and Mitigation Measures are in place to protect culturally important areas (EA at 32).

A 30-day comment period for the preliminary Environmental Assessment (EA) was provided for The Klamath Tribes, the Confederated Tribes of Warm Springs, and the Burns Paiute Tribe. This period started when the legal notice appeared in the newspaper of record, *The Bulletin,* Bend, Oregon on June 8, 2018. It was also posted simultaneously on the Deschutes National Forest/central Oregon website: https://data.ecosystem-management.org/nepaweb/nepa_project_exp.php?project=51024. The comment period ran through July 9, 2018, no comments were received.

Consultation with Government Agencies

Informal coordination occurred with federal, state, and local government officials. Formal consultation with the US Fish and Wildlife Service (USFWS) has been completed (DN at 5).

Consultation has occurred with the Oregon State Historic Preservation Office and the National Historic Preservation Act obligations have been met. Following guidelines in a 2004 Regional Programmatic Agreement (PA) among USDA-Forest Service, the Advisory Council on Historic Preservation, and the Oregon State Historic Preservation Office (SHPO) a finding of *"No Adverse Effect"* was determined under Stipulation III(B)5 of the Programmatic Agreement. Project Design Features have been incorporated to protect any known sites or if any items of archeological or historical value are reported or discovered (EA at 98).

Alternatives Considered

There were two alternatives that were considered in detail, Alternative A, the No Action Alternative, and Alternative B. Alternative B targeted certain ecosystem services and addressed altered water flows and impacts to water quality from encroachment and sedimentation from unauthorized structures and motorized use near the river. Measures to improve the water quality included reconnecting oxbows to the mainstem, removing of unauthorized structures, ditch breaching, riparian vegetation restoration, dispersed campsite management, and restoration of impacts from unauthorized trails. In addition, Oregon spotted frog habitat, high quality dispersed recreation, and a sustainable transportation system were also addressed in the alternatives (EA at 11).

If I had selected the No Action Alternative (Alternative A) there would be no specific management actions authorized, however custodial activities would continue such as routine maintenance of roads. Historic water diversions would remain in place, impeding free-flowing hydrology and altering natural hydrologic processes. Lodgepole pine would continue to encroach into the meadow area. No activities would be conducted to enhance recreation or hunting experiences in the project area, nor would wildlife populations be enhanced through habitat creation (EA at 31).

Alternative B (EA at 11, 31) addresses many of the ecosystem services by incorporating hydrologic work and recreation-related enhancements such as: restoration of quality aquatic and terrestrial habitat to provide for fish, big game, beaver, Oregon spotted frogs, and a diversity of plant species. Maintenance and improving the quality recreational experience of hunting, fishing, and camping, with a sustainable road system that provides access (including OHVs on ML 2 roads) while increasing wildlife security and reduces sedimentation to the river (EA at 9, 106-108).

Alternative B will redefine and/or rehabilitate 19 of the 20 dispersed recreation sites (one will be closed) and close two dump sites (EA at 16, 107). I have utilized on-the-ground field reports to help determine if: the sites are within the 300 feet of an open Forest Service road requirement for Travel Management (TM EIS ROD 2011), can the sites be rehabilitated by pulling it back from riparian sensitive areas, or if the need exists to close the site to reduce resource damage. I am also asking my specialists to ensure that there is a sustainable road system in place that includes utilizing existing and closed roads to identify a through route or re-route to construct a route to the 6125 road and map routes for ML 2 roads. These

roads are for use by high clearance vehicles (including All-terrain Vehicles [ATV] to minimize ground disturbance).

Alternatives Considered but Eliminated

There was a variety of Alternatives Considered but Eliminated from Further Detailed Analysis (EA at 36) These included: 1) Create bike trails along the river; 2) Open the area to All-terrain Vehicles (ATV)/motorized traffic; 3) Replacing the vehicle bridge at Bridge-out (at north end of Forest Service road 9770); 4) Improve access; 5) Leaving the unauthorized bridge at DS #14 in place; 6) Installing step pools or multiple side channel ponds in the ditch.

Chapter 2 in the Upper Little Deschutes Restoration Environmental Assessment discussed how these alternatives were considered. Depending on the elements of the alternatives some elements of the design were incorporated into Alternative B (DN at 3, EA at 32) or the Alternative was considered and dismissed from further consideration as they did not meet the Purpose and Need.

Finding of No Significant Impact and Other Laws and Regulations

After considering the environmental effects described in the EA, I have determined that these actions will not have a significant effect on the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27) therefore an environmental impact statement is not needed.

Context

The selected alternative includes lodgepole pine removal in stringer meadows adjacent to the river on approximately 244 acres, or four percent of the 6,286 acre Upper Little Deschutes Restoration project area. Restoration activies for the Oregon spotted frog within the Little Deschutes River Critical Habitat Unit (CHU 9) area will comprise of 195 acres which is two percent of the CHU (11,367 acres; EA at 51). There will be log structures added along approximately 10 river miles of the 105 mile long Little Deschutes River. Overall, all the project activities within the 6,286 acre project area comprise less than one percent of the Deschutes National Forest's 1,600,000 acres. Within this context, I find that this project is local in scope.

Intensity

Environmental effects of the actions described for the selected alternative (EA at 9-29) are documented in the EA (at 40-117). The beneficial and adverse direct, indirect, and cumulative effects discussed in the EA have been disclosed in the appropriate context, and effects are expected to be low in intensity because of project design elements, resource protection measures, and management requirements in place to protect or reduce impacts to resources. Significant effects to the human environment are not expected. I base my finding on the following intensity factors used to assess the potential for environmental effects to be significant.

1. Impacts that may be both beneficial and adverse are discussed in Chapter 3 of the EA (EA at 40-117). These impacts are within the range of the 1990 Deschutes Land and Resource Management Plan and will not have significant impacts on resources identified and described in Chapter 3 of the EA. The selected alternative provides the best combination of physical, biological, social, and economic benefits.

   The Little Deschutes River provides some unique habitats such as: meadows, fens, fish spawning habitat, and Oregon spotted frog habitat. This project will reconnect some of the relic oxbows by increasing water levels in side channels to improve the hydrological functions thus expanding and/or creating new unique habitat for fish and Oregon spotted frog (EA at 10).

   There would be some short-term impacts such as sedimentation into the river with reconnecting some of the oxbows, the removal of two unauthorized bridges, placement of the log structures in the stream, and from the eroded stream banks till the native vegetation can become re-established. There will be a long-term beneficial effect in sediment reduction and maintaining vegetation along the river by creating a sustainable transportation system and defining dispersed campsites to keep them within a manageable footprint (EA at 17, 103).

   A beneficial effect is the increased long-term shade. This shade is expected to occur as a result of improved soil moisture levels being able to support riparian vegetation in a broader area. This improved shading would be the result of riparian planting and the degree of shading provided by riparian plants such as willow, aspen, and sedge (EA at 93, 119) will contribute to a decrease in summer maximum stream temperatures.

2. There will be no significant effects on public health and safety because this action is relatively

benign to the human environment and would have no measurable effect to water or air quality (EA at 117-118). There may be some short-term sedimentation into the river. I have considered how prescribed burning would affect the airshed and all burning will be conducted in compliance with the National Ambient Air Quality Standards and will implement the provisions of the Oregon Smoke Management Plan (EA at 115, 119).

3. There will be no significant effects on unique characteristics of the area or ecologically critical areas such as park lands, prime farmlands, wetlands. Although there may be some short-term impacts to wetlands or floodplains (increased amounts of fine sediment delivery, and disturbance to riparian vegetation) from the felling and moving of trees, the long-term benefits of elevated shallow groundwater levels (as a result of large wood placement and displacement of water) which would support riparian vegetation growth and the colonization/stabilization of disturbed surfaces. It is anticipated that implementation of this project would improve shallow groundwater storage, and therefore improve hyporheic exchange and restoration of a more natural (pre-European American disturbance) flow regime for this area (EA at 10, 93, 119).

   Instream restoration work and lodgepole removal in the meadows along the Little Deschutes River may cause big game to temporarily avoid the local area as the riparian encroachment treatments will reduce big game hiding cover near the river inintially, but a long-term benefit is an increase in foraging opportunities, willow regrowth, as well as fawning and calving areas (EA at 35, 55, 74). A combined benefit from the riparian and instream work would be to remove the undesirable lodgepole pine to open the riparian meadow areas to allow a more wetted state and discourage lodgepole pine seedlings. Treatments will create high quality forage for big game, create nesting habitat for waterfowl, and expand the foraging habitat for great gray owls as well as other ancipitors. The dense willow component that would be encouraged is beneficial to small neotropical migrants (EA at 61). I realize that there will be some winners and losers as not all species prefer a more open meadow condition (EA at 64, 68).

4. Based on public participation and analysis in the EA, the effects on the quality of human environment are not likely to be highly controversial (EA at 118). The CEQ defines scientific controversy as when experts disagree with the Forest Service cited science. There is no known credible scientific controversy over the impacts of the project.

5. The effects analysis shows the effects are not uncertain, and do not involve unique or unknown risk (EA Chaper 3 at 40). The Forest Service has considerable experience with the types of activities to be implemented and has assigned routine Project Design Features, Mitigation Measures, and/or Monitoring that have been extensively used on other similar projects with no unexpected consequences (EA at 32-36).

   These actions pose no disproportionately high or adverse human health or environmental effects, including social and economic effects, on minority or low-income populations (EA at 118). This project has shared in the Federal government's overall trust responsibility to Indian Tribes where treaty or other legally defined rights apply to National Forest System lands. Consultation with the Burns Paiute Tribe, The Klamath Tribe, and Confederated Tribes of Warm Springs has occurred. Consultation has incorporated opportunities for tribal comments and contributions to the proposed project (EA at 29).

6. The action is not likely to establish a precedent for future actions with significant effects that may be implemented to meet the goals and objectives of the *Deschutes National Forest Land and Resource Management Plan* (1990) as amended. This project is consistent with management direction set forth by the Forest Plan (EA at 38, 88, 118). This project will "fine tune" hydrologic

functions to greater benefit the threatened Oregon spotted frog by reconnecting some of the relic oxbows, thus providing additional habitat. In addition, the closing and/or restoration of 20 dispersed campsites, and removal of two unauthorized bridges would reduce streambank erosion and sedimentation while allowing vegetation to recover (EA at 7, 15, 33, 41). These are site-specific activities and does not represent a decision in principle that causes future considerations.

7. There are no known significant adverse, cumulative, or secondary effects between this project and other projects (completed, active, or planned). Effects to the basic resource values of soil, water, fish, plants, and wildlife are estimated and determined to be localized, limited, or small in scale (EA Chapter 3, Soils at 111-114, Fisheries and Aquatics at 89-93, Botany at 84-88, Wildlife at 40-83). This determination is based on the results of cumulative effects analyses discussed in Chapter 3 of the EA.

8. The action will have no significant adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or cause loss of, or destruction of, significant scientific, cultural, or historical resources. Based on pre-disturbance surveys, a record search and field surveys of the Upper Little Deschutes Restoration project area, a finding of *"No Averse Effect"* was determined under Stipulation III(B)5 of the Programmatic Agreement (EA at 101). The Forest finds that there are historic properties but the undertaking would have no effect on them as defined by 36 CFR 800.16(i). Project Design Features and Mitigation Measures (EA at 31) provide guidance for protection of any sites discovered or reported during construction activities.

9. The biological evaluations for Threatened, Endangered or Candidate species or its habitat been prepared and located in the project record (EA,Wildlife starts on page 40, Botany at 83, and Fisheries at 88). Analysis of wildlife species indicates:
    a. The Oregon spotted frog was listed as threatened on August 29, 2014 (EA at 40, 47). Alternative B would result in a determination of **"Likely to Adversely Affect"** for the **Oregon spotted frog**. Consultation with US Fish and Wildlife Service is necessary. Consultation with US Fish and Wildlife Service is ongoing and will be completed prior to a signed decision. An indepth effects analysis is being completed in a separate Biological Analysis (BA).
    b. Alternative B would result in a determination of **"May Effect, Not Likely to Adversely Affect"** for the **Oregon spotted frog** proposed critical habitat. Consultation with US Fish and Wildlife Service is necessary. Consultation with US Fish and Wildlife Service is ongoing and will be completed prior to a signed decision.
    c. Alternative B would result in a determination of **"No Effect"** for the **gray wolf** (EA at 40, 41, 54).
    d. Alternative B would have a **"No Effect"** on the **northern spotted owl** (EA at 40, 41, 47).
    e. Alternative B would have **"No Effect"** on the **northern spotted owl critical habitat** (EA at 40, 47).
    f. Alternative B would have **"No Effect"** on the **Pacific fisher** or the **North American Wolverine** (EA at 56 -57).
    g. Alternative B would have a **"May Impact Individuals or Habitat, But Will Not Likely Contribute to a Trend Toward Federal Listing or Loss of Viability to the Population or Species"** on the **White-headed woodpecker** (EA at 40, 59).
    h. Alternative B would have **"Beneficial Impact"** on the **Northern Waterthrush, Crater Lake tightcoil, Shiney tightcoil, Silver-bordered fritillary, Western bumblebee, Morrisoni bumblebee, and the Suckley's cuckoo bumblebee** (EA at 40, 42, 65).

There are no TES or Region 6 Sensitive botanical species (EA at 84).

There are no TES or Region 6 Sensitive Fish species (EA at 89).

This project is in compliance with the Inland Native Fish Strategy (INFISH; EA at 89). Project Design Features, such as timing restrictions (EA at 32-36) are incorporated to limit impacts to these species.

10. The action will not violate Federal, State, and local laws or requirements for the protection of the environment and is consistent with the Deschutes National Forest Land and Resource Management Plan (DLRMP 1990) as amended and Deschutes Final Environmetal Impact Statement (FEIS). Applicable laws and regulations were considered in the EA starting at 118.

I have reviewed the record of relevant scientific information, a consideration of responsible opposing views, and the acknowledgment of incomplete or unavailable information, scientific uncertainty, and risk.

This decision is made with consideration of past, present, and reasonably foreseeable future actions on National Forest lands and other ownerships within potentially affected areas which could have a cumulatively significant effect on the quality of the human or natural environment (EA at 38).

Legal Requirements and Policy

In reviewing the EA and actions associated with Alternative B, I have concluded that my decision is consistent with the following laws and requirements. Chapter 3 in the EA (at 38-117) also discloses the effect of the alternative on the human environment as specified by law, regulation, policy, or executive orders that is not covered by the following.

The National Environmental Policy Act (NEPA)

The National Environmental Policy Act (NEPA) establishes the format and content requirements of environmental analysis and documentation as well as requirements for public involvement and disclosure. The entire process of preparing this environmental assessment was undertaken to comply with NEPA. This EA is tiered to the Deschutes Forest Plan Final Environmental Impact Statement, as amended by the Northwest Forest Plan, and is consistent with those plans and their requirements. Implementation of the alternative would not conflict with the plans or policies of other jurisdictions, including Tribes. The action alternative would not conflict with any other policies, regulations, or laws, including the Clean Water Act, Clean Air Act, Endangered Species Act, and the National Historic Preservation Act (EA at 118).

The National Forest Management Act (NFMA)

I find this decision to be consistent with the long-term management objectives as discussed in the Deschutes National Forest Plan as amended. This project is outside the boundaries of the Northwest Forest Plan, therefore no direction in the Northwest Forest Plan (NWFP 1994) applies to this project (EA at 6, 117).

The Clean Water Act (1972) and Sections 319 and 303(d)

The primary objective of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of all waters to protect the 'beneficial uses' as documented according to criteria by the Oregon Department of Environmental Quality (ODEQ). A beneficial use is a resource or activity that would be directly affected by a change in water quality or quantity. Beneficial uses are defined on a basin scale in the Oregon Administrative Rules for water quality and cover large areas of land. The beneficial uses for this project are derived from the entire Deschutes Basin (approximately 6.9 million acres).

Under Section 319 of the 1987 CWA Amendments, States are required to determine those waters that will not meet the goals of the CWA, determine those non-point source activities that are contributing pollution, and develop a process on how to reduce such pollution to the "maximum extent practicable." Best Management Practices (BMPs) and state-wide management plans are a requirement of the CWA and are used to meet water quality standards. Section 303(d) of the CWA requires that a list be developed of all impaired or threatened waters within each state. The ODEQ is responsible for compiling the 303(d) list, assessing data, and submitting the 303(d) list to the Environmental Protection Agency (EPA) for federal approval. The 303(d) list identifies waters where water quality standards are not met and where pollutant load limits (Total Maximum Daily Loads) are needed.

The Little Deschutes River runs through both sections of this project area and is on the 2010 303(d) list for exceedances of stream temperature and dissolved oxygen (D.O.). Although there may be some short-term impacts (fine sedimentation) from felling, skidding, and placing the logs in the stream the long-term benefits include increased shade occurring as a result of improved soil moisture levels that can support riparian vegetation in a broader area, and improved shading as a result of riparian planting and the degree of shading provided by riparian plants such as willow, aspen, and sedge (EA at 90).

The Preservation of American Antiquities Act of June 1906 and the National Historic Preservation Act: The Oregon State Historic Preservation Officer (SHPO)

A cultural resource inventory has been completed for the project area. Following guidelines in the 2004 Regional Programmatic Agreement (PA) among USDA-Forest Service, the Advisory Council on Historic Preservation (ACHP), and the Oregon SHPO, a finding of "*No Adverse Effect*" was determined under Stipulation III (B) 5 of the PA. The Forest finds that there are historic properties, but the undertaking will have no effect on them as defined by 36 CFR 800.16(i). This finding is based on the practice of avoiding eligible and unevaluated sites or incorporating project design features. Given this finding and the Project Design Features (EA at 32) there should be no direct environmental effects from the proposed project on the cultural resource sites (a.k.a. historic properties) that require protection (EA at 102).

Civil Rights and Environmental Justice

Executive Order 12898 on environmental justice requires federal agencies to identify and address any disproportionately high and adverse human health or environmental effects on minority and low-income populations. The analysis focuses on potential effects from the project to minority populations, disabled persons, and low-income groups.

I have determined that there will be no discernible impacts from any of the alternatives on Native Americans, women, other minorities, or the Civil Rights of any American citizen. None of the alternatives adversely affect civil rights, nor would it pose any adverse effects to those populations as there would be no change in location, or services offered to all subsets of the public.

Implementation

Proposed implementation would begin in the late fall of 2019 and be phased in over a five-year period. Approval of the proposed project or activity documented in a DN may occur on, but not before, the fifth business day following the end of the objection filing period (36 CFR 218.12).

Objection Process

This decision was subject to the pre-decisional administrative review pursuant to 36 CFR 218, Subpart B, also known as the "objection process." The Legal Notice to start the Pre-decisional objection process was published in *The Bulletin*, Bend, Oregon, the newspaper of record for Crescent, Oregon on May 25, 2019. A Dear Interested Party letter was sent either via U.S. Postal Service or email to 12 persons who had standing for objection to let them know that Upper Little Deschutes Restoration Project Final

Environmental Assessment and Preliminary Decision Notice and Finding of No Significant Impact (DN/FONSI) were available. It was also available on the Deschutes National Forest website. The 45 day objection period ended Monday July 8, 2019. There were no objections.

Contact Person/Further Information
Project records are on file at the Crescent Ranger District office. The EA and other project documents are available on the internet at
https://data.ecosystem-management.org/nepaweb/nepa_project_exp.php?project=51024

For additional information concerning this decision, please contact Carina Rosterolla, Wildlife Biologist, at the Crescent Ranger District, PO Box 208, Crescent, OR 97733; or by phone at (541) 433-3200.

D I Rife

DANIEL RIFE
Crescent District Ranger

Oct 1, 2019
DATE

Resource Protection Measures

Project Design Features and Mitigations
The following features are incorporated into the design of all activities included in the ULDR project, and apply to all action alternatives unless stated otherwise. The difference between Project Design Features and Mitigation Measures is that Project Design Features are considered routine, have been used on numerous similar projects, and are either incorporated into contract provisions or accomplished between appropriate resource specialists, and have proven to be effective. Mitigation Measures are site-specific, usually have a specific unit(s) assigned to them, and are used to avoid, minimize, rectify, reduce, or compensate for an impact (40 CFR 1508.20). For example, a Project Design Feature may include a seasonal closure for an unknown nest site (if discovered); a Mitigation Measure would place a seasonal closure on a known nest site specific to a unit. Project Design Features and Mitigation Measures are used as a basis for determining and disclosing effects in the Environmental Consequences discussions.

Project Design Features and Mitigation Measures listed here would reduce or eliminate unwanted effects and ensure project activities are implemented to comply with Forest Plan standards and guidelines. The sources of these measures include but are not limited to: Forest Plan goals, objectives, or standards & guidelines; Project Design Criteria from the Programmatic BA; and development plans such as Late Successional Reserve Assessments or Bald Eagle Management Area (BEMA) plans.

Project Design Features

Cultural Resources

1. For any ground disturbance work, imported fill must be from a culturally sterile source (meaning there is no possible contamination from fill originating from another buried archaeological site).
2. If, prior to, or during construction work, items of archeological or historical value are reported or discovered, or an unknown deposit of such items is disturbed, work would immediately cease activities in the area affected. The Forest Service would be notified and ground disturbing activity would not resume until written authorization is provided.
3. Should human remains be encountered, the Native American Graves Protection and Repatriation Act (NAGPRA), 25 U.S.C. 3001 et seq. [Nov. 16, 1990] and its regulations (43 CFR §10) would apply.
4. During instream structure placement there will be no excavation, tree tip-ups, or heavy equipment within site buffers (30 meters; 100 feet).
5. During lodgepole pine thinning, no heavy machinery, winching, or other ground disturbance within site buffers (30 meters; 100 feet). Hand thinning allowed within site buffers. No piling or burning of slash within site buffers.
6. For road work, placement of boulders and slash allowed on a case-by-case basis and monitored as specified by the District Archaeologist. Otherwise, no ripping or ground disturbing work within site buffers (30 meters; 100 feet).
7. During rehabilitation and/or closure of disperse campsites, placement of boulders and slash allowed on a case-by-case basis and monitored as specified by the District Archaeologist. Otherwise, no ground disturbing work within site buffers (30 meters; 100 feet).
8. Personnel will work with the District Archaeologist on fence, sign design, and placement at the Little Deschutes cabin (DS#19).

Soils/Hydrology

9. Restoration of unauthorized roads and decommissioning of system roads should incorporate both soil decompaction and surface cover placement, where possible. Restoration actions may include, but are not limited to, utilizing an excavator or bulldozer-mounted subsoiling implement, using an excavator bucket to loosen compacted soils to a minimum depth of 16 inches, recontouring cuts and fills, mulching treated surfaces, pulling slash and woody materials over treated surfaces to establish effective ground cover protection where available, and or seeding/planting with native, locally-adapted species.
    a. See Table 2 for road status (EA at 23).
10. Excavators, bulldozers, or other heavy equipment used for road closures, road decommissioning, and/or dispersed site restoration, will remain on existing travelways or previously impacted surfaces at all times.
11. Excavators or other heavy equipment used for tree removal and/or instream wood placement will remain on upland soil areas and will be limited to two passes on any specific piece of ground. If more passes are required in a given location to achieve objectives, the excavator bucket will be used to scarify/decompact soils, place woody debris on the soil surface, and/or replace displaced soil.
12. All meadow restoration, recreation site rehab, and near-stream work where high water tables are present (saturated conditions within two feet of the soil surface, presence of riparian vegetation) will be either conducted by hand or conducted using tracked low ground pressure equipment when water tables are low enough and soil is dry enough to avoid damage. Machines may be permitted to reach in from upland areas, where feasible. Alternately, operating machinery over sufficient snow, frozen ground, or slash mats may be acceptable to limit detrimental soil disturbance.
13. All access routes and staging areas will be placed outside of sensitive/wet soil areas.
14. Equipment Refueling- Avoid or minimize adverse effects to soil, water quality and riparian resources from fuels, lubricants, cleaners and other harmful materials discharging into nearby surface waters or infiltrating through soils to contaminate groundwater resources during equipment refueling and servicing activities.
15. Allow temporary refueling and servicing only at approved locations, located well away from the aquatic maintenance zone (AMZ), groundwater recharge areas, and waterbodies. Refueling/maintenance may occur on existing road/disturbed surfaces away from live water.
16. Placement of instream structures will avoid a net rise in water level to avoid inundation and damage to private land, roads, and bridges.
17. All trees for instream work would be cut within approximately 300 feet of the river.
18. Equipment operators/operations will have a spill kit on site on site of sufficient size to clean up and prevent further contamination.
19. Forest Service will be informed of any observed petroleum spills.

Fisheries/Aquatics

20. Avoid, minimize, or mitigate adverse impacts to water quality when working in aquatic ecosystems.
21. Meet instream/floodplain large woody material needs through the falling of lodgepole pine encroachment within riparian areas.
22. Place the instream structures so as to minimize shallow ground water storage on adjacent private property.

23. Locate access and staging areas near the project site but outside of work area boundaries, Aquatic Management Zones (AMZs), wetlands, and sensitive soil areas.
24. Avoid scheduling instream work during the spawning or migration seasons of resident or migratory fish and other important life history phases of sensitive species that could be affected by the project.
25. At beginning of the project install and appropriately maintain erosion control measures.
26. At beginning of the project install and appropriately maintain spill prevention and containment measures.
27. Allow temporary refueling and servicing only at approved locations, located well away from the AMZ, groundwater recharge areas, and waterbodies.
28. Close and rehabilitate designated motor vehicle use areas that are causing unacceptable adverse effects to soil, water quality, and riparian resources (see BMP Fac-10 [Facility Site Reclamation]).
29. Future work may include re-entry into the meadows to lop and scatter the seedlings/sapling to maintain the meadow and/or replace logs in the instream structures.
30. Maintenance/repair and/or expansion of the structures may be required as the site evolves.

Invasive Plants

31. Actions conducted or authorized by the Forest Service that operate outside the limits of the road prism (including public works and service contracts) require the cleaning of equipment (i.e., bulldozers, skidders, graders, backhoes, dump trucks, etc.) prior to entering the National Forest System Lands. This requires that mud, dirt, and plant parts be removed from all heavy equipment and that cleaning must occur in areas where removed weed seeds will not create additional problems.
32. Equipment and vehicles (contract and Forest Service) used in the project area will be cleaned of soil and plant parts before coming on the forest and before moving from areas infested with weeds to uninfected areas. Equipment will be inspected on-site by the Forest Service project manager or the District botanist prior to start of work.
33. All gravel, fill, sand stockpiles, quarry sites and borrow materials used for this project would be inspected for invasive plants before such material is transported and used within Forest Service lands. Any infested sources must be treated before use of pit material. Only gravel, fill, sand, and rock that are judged to be weed-free by District or Forest weed specialists would be used for this project.
34. Only weed-free straw and mulch will be used for projects conducted or authorized by the Forest Service on National Forest System Lands. If State certified straw and/or mulch is not available, the Forest should require a source be certified using the North American Weed Free Forage program standards or a similar certification process.
35. All native plant materials including seed, plugs, bare-root, and live stakes will be free of weed plant parts and propagules.
36. All Forest Service employees, volunteers, and contractors are required to inspect, remove, and properly dispose of weed seed and plant parts found on their clothing and personal equipment before entering National Forest Lands and prior to leaving a project site infested with weeds.
37. To prevent the introduction of aquatic invasive species, all Forest Service employees, volunteers, and contractors are required to have clean equipment and gear (watercraft, boots, waders, etc.) prior to entering any wetland or waterway. It is recommended that aquatic gear be rinsed and sterilized (with a chlorine bleach solution or a commercial disinfectant) as a preventive measure against the introduction of aquatic microorganisms.

38. All known weed sites would be treated prior to any ground disturbing activities.

Wildlife

39. No trees over 21 inches dbh would be cut, or pulled over, from the lodgepole removal to provide instream structures.
40. The majority of side channels or oxbows will use the elevated water table created by instream structures to reconnect during spring high flows and disconnect as water levels drop. Depending on ground conditions and location, equipment may be utilized to reconnect some of the oxbows. Existing or created deep pools would be constructed for reconnecting only during high flow to maintain separation of Oregon spotted frog (OSF) and fish.
41. A detailed Implementation and Monitoring Plan, including survey, capture/relocation details, will be developed and implemented by the Forest Service in coordination with the US Fish and Wildlife Service. Elements of the plan to include but not limited to:
    a. Surveying all reaches in spring for egg masses and summer/fall for adults.
    b. Survey just prior to implementation where ever and whenever work in potential habitat is done.
    c. Capture and relocation would most likely happen only where frogs are confined (ie ditch, unconnected oxbows) and not the stream.
    d. For instream structure placement activity chase frogs away from immediate area prior to structure installation would take place.
42. Seasonal Restriction to protect the Oregon spotted frog breeding sites: Activities within breeding habitat to occur after August 1st.

Table 1. Seasonal Restrictions

Species	Buffer Distance	Restricted Season	Actions Restricted
Northern Bald Eagle (nest)	¼ mile	January 1-August 31	If additional nest is found all activities within buffer, none currently within existing nest buffer (nest on private lands)
Goshawk (nest)	¼ mile	March 1- August 31	If nest is found all activities within buffer
Osprey (nest)	¼ mile	April 1 – August 31	If nest is found all activities within buffer
Red-tailed hawk (nest)	¼ mile	March 1 – August 31	If nest is found all activities within buffer
Sharp-shinned hawk (nest)	¼ mile	April 15 – August 31	If nest is found all activities within buffer
Cooper's hawk (nest)	¼ mile	April 1 – August 31	If additional nest is found all activities within buffer, none currently within existing nest buffer
Great gray owl (nest)	¼ mile	March 1 – June 30	If nest is found all activities within buffer
Northern Waterthrush	Occupied nesting habitat	May 15- August 1	Lodgepole pine removal, pile burning, stream enhancement.
Deer and Elk (fawning/calving habitat)	¼ mile	May 1 – June 30	All proposed actions within 0.25 mi of river

43. Conservation recommendations for the U.S Fish and Wildlife Service (not required)
    - Continue the close coordination with the Service in monitoring status of the spotted frog.
    - Continue monitoring the effectiveness of restoration actions by monitoring water levels within wetland habitats.
    - Re-establish a diversity of native wetland vegetation in treated areas, if needed.
    - Monitor for invasive plants that can reduce the quality of spitted frog habitat.

Recreation

44. No instream structures within 10 to 30 yards from known popular swimming holes unless site is enhanced by log placement.
45. To reduce impacts to the recreating public, interested publics would be notified of the schedule of implementation for activities planned on a yearly basis. Notification would generally take place in the spring and could be by email, US Postal Service letter, FS website and/or fliers.

Fuels

46. If there are any residual fuels, such as limbs and slash, left after project completion these fuels may be piled for burning in areas approved by the district archeologist, wildlife specialist, and soil specialist.
47. Where needed, fuels treatments may include: lop and scatter and/or piling where concentrations of slash are heavy. Piles may be burned or left for wildlife.
48. If lop and scatter is utilized a bed of continuous fuel (unbroken fuel arrangement) with fine fuels (less than a quarter inch in diameter) and 10 hour fuels (0.25 to 1 inch in diameter) or combination of the two will not exceed three inches in depth.

Transportation

49. All of the proposed treatments will only occur on National Forest System Lands.
50. Roads listed as unauthorized may be decommissioned to the level that is necessary to protect resources. There may be additional unauthorized roads that are not identified on the map that may receive the same treatment after consulting with the District Archaeologist and other District Specialists.
51. Decommissioning includes applying various treatments, including one or more of the following:
    - Reestablishing former drainage patterns, stabilizing slopes, and restoring vegetation;
    - Blocking the entrance to a road or installing water bars;
    - Removing culverts, reestablishing drainages, removing unstable fills, pulling back road shoulders, and scattering slash on the roadbed;
    - Completely eliminating the roadbed by restoring natural contours and slopes; and
    - Other methods designed to meet the specific conditions associated with the unneeded road.
52. Closure methods may include one or more of the following:
    - Reestablishing former drainage patterns, stabilizing slopes, and restoring vegetation;
    - Blocking the entrance to a road or installing water bars;
    - Removing culverts, reestablishing drainages, removing unstable fills, pulling back road shoulders, and scattering slash on the roadbed; and
    - Other methods designed to meet the specific conditions associated with ML 1 roads.